RAW SEQUENCE LISTING   DATE: 01/23/2003 p.6
PATENT APPLICATION: US/09/368,670C   TIME: 08:29:28

Input Set : A:\Corrected sequence listing#2.txt
Output Set: N:\CRF4\01232003\I368670C.raw

```
 4 <110> APPLICANT: Boehringer Ingelheim (Canada) Ltd.
 6 <120> TITLE OF INVENTION: Hepatitis C Inhibitor Peptides
 9 <130> FILE REFERENCE: 13/063-2-C2
11 <140> CURRENT APPLICATION NUMBER: 09/368,670C
12 <141> CURRENT FILING DATE: 1999-08-05
14 <150> PRIOR APPLICATION NUMBER: 60/095,945
15 <151> PRIOR FILING DATE: 1998-08-10
17 <150> PRIOR APPLICATION NUMBER: 60/055,186
19 <151> PRIOR FILING DATE: 1997-08-11
20 <150> PRIOR APPLICATION NUMBER: 09/131,758
21 <151> PRIOR FILING DATE: 1998-08-10
23 <160> NUMBER OF SEQ ID NOS: 13
25 <170> SOFTWARE: PatentIn for Windows Version 4.0
27 <210> SEQ ID NO: 1
28 <211> LENGTH: 6
29 <212> TYPE: PRT
30 <213> ORGANISM: Hepatitis C
32 <220> FEATURE:
33 <221> NAME/KEY: VARIANT
34 <222> LOCATION: 1
35 <223> OTHER INFORMATION: Asp is capped with Ac
37 <400> SEQUENCE: 1
38 Asp Asp Ile Val Pro Cys
39  1               5
41 <210> SEQ ID NO: 2
43 <211> LENGTH: 12
44 <212> TYPE: PRT
45 <213> ORGANISM: Hepatitis C
46 <400> SEQUENCE: 2
48 Asp Asp Ile Val Pro Cys Ser Met Ser Tyr Thr Trp
49  1               5               10

50 <210> SEQ ID NO: 3
51 <211> LENGTH: 12
52 <212> TYPE: PRT
53 <213> ORGANISM: Hepatitis C
54 <220> FEATURE:
55 <221> NAME/KEY: VARIANT
56 <222> LOCATION: 1
60 <223> OTHER INFORMATION: Asp is capped with biotin
62 <221> NAME/KEY: VARIANT
63 <222> LOCATION: 12
64 <223> OTHER INFORMATION: Trp is C-amidated
W--> 66 <400> 3
```

RAW SEQUENCE LISTING   DATE: 01/23/2003
PATENT APPLICATION: US/09/368,670C   TIME: 08:29:28

Input Set : A:\Corrected sequence listing#2.txt
Output Set: N:\CRF4\01232003\I368670C.raw

```
67 Asp Asp Ile Val Pro Cys Ser Met Ser Tyr Thr Trp
69  1                 5                    10
71 <210> SEQ ID NO: 4
72 <211> LENGTH: 6
74 <212> TYPE: PRT
75 <213> ORGANISM: Hepatitis C
76 <220> FEATURE:
77 <221> NAME/KEY: VARIANT
78 <222> LOCATION: 4
79 <223> OTHER INFORMATION: Tyr is iodinated
81 <400> SEQUENCE: 4
8. Ser Met Ser Tyr Thr Trp
85  1                 5
86 <210> SEQ ID NO: 5
87 <211> LENGTH: 17
89 <212> TYPE: PRT
8  <213> ORGANISM: Hepatitis C
91 <400> SEQUENCE: 5
9  Leu Thr Gly Gly Val Val Ile Val Gly Arg Ile Ile Leu Ser Gly Arg
93 Lys
94 <210> SEQ ID NO: 6
96 <211> LENGTH: 11
100 <212> TYPE: PRT
101 <213> ORGANISM: Hepatitis C
103 <220> FEATURE:
104 <221> NAME/KEY: VARIANT
105 <222> LOCATION: 1
106 <223> OTHER INFORMATION: Asp is derivatized with anthranilyl
108 <221> NAME/KEY: VARIANT
109 <222> LOCATION: 6
110 <223> OTHER INFORMATION: Xaa Abu
```

W--> 112 <221> VARIANT
```
113 <222> LOCATION:  (6)...(7)
114 <223> OTHER INFORMATION: Abu-A between 6 and 7 is C(O)-O
```
W--> 116 <221> VARIANT
```
117 <222> LOCATION: 9
118 <223> OTHER INFORMATION: Tyr is derivatized with 4-NO
```
W--> 120 <400> 6
W--> 121 Asp Asp Ile Val Pro Xaa Ala Met Tyr Thr Trp
```
122  1                 5                    10
123 <210> SEQ ID NO: 7
125 <211> LENGTH: 4
126 <212> TYPE: PRT
128 <213> ORGANISM: Hepatitis C
129 <220> FEATURE:
131 <221> NAME/KEY: VARIANT
132 <222> LOCATION: 1
133 <223> OTHER INFORMATION: Ala is succinylated
```

RAW SEQUENCE LISTING   DATE: 01/23/2003
PATENT APPLICATION: US/09/368,670C   TIME: 08:29:28

Input Set : A:\Corrected sequence listing#2.txt
Output Set: N:\CRF4\01232003\I368670C.raw

```
135 <221> NAME/KEY: VARIANT
136 <222> LOCATION: 4
137 <223> OTHER INFORMATION: Phe is derivatized with para-nitro-aniline
```
W--> 139 <400> 7
```
140 Ala Ala Pro Phe
141  1
144 <210> SEQ ID NO: 8
145 <211> LENGTH: 6
146 <212> TYPE: PRT
147 <213> ORGANISM: Hepatitis C
149 <220> FEATURE:
150 <221> NAME/KEY: VARIANT
151 <222> LOCATION: 1
152 <223> OTHER INFORMATION: Asp is acetylated
154 <400> SEQUENCE: 8
155 Asp Asp Ile Val Pro Cys
156  1                   5
158 <210> SEQ ID NO: 9
159 <211> LENGTH: 6
160 <212> TYPE: PRT
162 <213> ORGANISM: Hepatitis C
164 <220> FEATURE:
165 <221> NAME/KEY: VARIANT
166 <222> LOCATION: 1
167 <223> OTHER INFORMATION: Glu is acetylated
169 <400> SEQUENCE: 9
170 Glu Asp Ile Val Pro Cys
171  1                   5
174 <210> SEQ ID NO: 10
175 <211> LENGTH: 5
176 <212> TYPE: PRT
177 <213> ORGANISM: Hepatitis C
179 <220> FEATURE:
180 <221> NAME/KEY: VARIANT
181 <222> LOCATION:
182 <223> OTHER INFORMATION: Asp is capped with PAP
184 <400> SEQUENCE: 10
185 Asp Ile Val Pro Cys
186                     5
188 <210> SEQ ID NO: 11
190 <211> LENGTH: 6
191 <212> TYPE: PRT
192 <213> ORGANISM: Hepatitis C
193 <220> FEATURE:
195 <221> NAME/KEY: VARIANT
196 <222> LOCATION: 1
197 <223> OTHER INFORMATION: Asp is acetylated
198 <400> SEQUENCE: 11
200 Asp Glu Ile Val Pro Cys
```

RAW SEQUENCE LISTING   DATE: 01/23/2003
PATENT APPLICATION: US/09/368,670C   TIME: 08:29:28

Input Set : A:\Corrected sequence listing#2.txt
Output Set: N:\CRF4\01232003\I368670C.raw

```
201  1              5
204 <210> SEQ ID NO: 12
205 <211> LENGTH: 6
206 <1.. TYPE: PRT
207 <1.. ORGANISM: Hepatitis C
209 <22> FEATURE:
210 <..> NAME KEY: VARIANT
211 <..> LOCATION: 1
212 <..> OTHER INFORMATION: Asp is acetylated
213 <..> SEQUENCE: 12
215 Asp Val Ile Val Pro Cys
216  1              5
219 <..> SEQ ID NO: 13
220 <211> LENGTH: 6
221 <1.. TYPE: PRT
222 <1.. ORGANISM: Hepatitis C
224 <..> FEATURE:
225 <..> NAME KEY: VARIANT
226 <..> LOCATION: 2
227 <..> OTHER INFORMATION: Xaa=Tbq
         NAME KEY: VARIANT
         LOCATION:
         OTHER INFORMATION: Asp is acetylated
```

W--> 233 <400> 13
W--> 234 Asp Xaa Ile Val Pro Cys

```
235  1              5
236 <210> SEQ ID NO: 14
239 <211> LENGTH: 6
240 <112> TYPE: PRT
241 <213> ORGANISM: Hepatitis C
242 <220> FEATURE:
244 <221> NAME/KEY: VARIANT
245 <221> LOCATION: 1
246 <223> OTHER INFORMATION: Asp is acetylated
248 <400> SEQUENCE: 14
249 Asp Asp Val Val Pro Cys
250  1              5
253 <210> SEQ ID NO: 15
254 <211> LENGTH: 6
255 <112> TYPE: PRT
256 <213> ORGANISM: Hepatitis C
         FEATURE:
259 <221> NAME/KEY: VARIANT
         LOCATION:
261 <223> OTHER INFORMATION: Xaa Cbq
263 <221> NAME/KEY: VARIANT
264 <221> LOCATION: 1
265 <223> OTHER INFORMATION: Asp is acetylated
```

W--> 267 <400> 15

RAW SEQUENCE LISTING   DATE: 01/23/2003
PATENT APPLICATION: US/09/368,670C   TIME: 08:29:28

Input Set : A:\Corrected sequence listing#2.txt
Output Set: N:\CRF4\01232003\I368670C.raw

```
W--> 268 Asp Asp Xaa Val Pro Cys
     269  1                5
     272 <210> SEQ ID NO: 16
     273 <11> LENGTH: 6
     274 <12> TYPE: PRT
     275 <13> ORGANISM: Hepatitis C
     277 <2> FEATURE:
     278 <21> NAME/KEY: VARIANT
     279 <22> LOCATION: 3
     280 <23> OTHER INFORMATION: Xaa=Tbg
     282 <21> NAME/KEY: VARIANT
     283 <23> LOCATION: 1
     284 <23> OTHER INFORMATION: Asp is acetylated
W--> 286 <400> 16
W--> 287 Asp Asp Xaa Val Pro Cys
     288  1                5
     291 <10> SEQ ID NO: 17
     292 <11> LENGTH: 6
     293 <1> TYPE: PRT
     295                       :
     296 <2> FEATURE:
     297 <21> NAME/KEY: VARIANT
     298 <2> LOCATION: 1
     299 <2> OTHER INFORMATION: Asp is acetylated
     301 <400> SEQUENCE: 17
     302 Asp Asp Leu Val Pro Cys
     303  1                5
     306 <10> SEQ ID NO: 18
     307 <11> LENGTH: 6
     308 <12> TYPE: PRT
     309 <13> ORGANISM: Hepatitis C
     311 <2> FEATURE:
     312 <21> NAME/KEY: VARIANT
     313 <2> LOCATION: 1
     314 <2> OTHER INFORMATION: Asp is acetylated
     316 <400> SEQUENCE: 18
     317 Asp Asp Ile Ile Pro Cys
     318  1                :
     321 <10> SEQ ID NO: 19
     322        TYPE: :
     323 <1> TYPE: PRT
     324 <1> ORGANISM: Hepatitis C
     326 <2> FEATURE:
     327 <21> NAME/KEY: VARIANT
     328 <2> LOCATION: 4
     329 <2> OTHER INFORMATION: Xaa=Thr
     331 <21> NAME/KEY: VARIANT
     332 <2> LOCATION: 1
     333 <23> OTHER INFORMATION: Asp is acetylated
```

RAW SEQUENCE LISTING ERROR SUMMARY   DATE: 01/23/2003
PATENT APPLICATION: US/09/368,670C   TIME: 08:29:29

Input Set : A:\Corrected sequence listing#2.txt
Output Set: N:\CRF4\01232003\I368670C.raw

Please Note:
Use of n and/or Xaa have been detected in the Sequence Listing. Please review the
Sequence Listing to ensure that a corresponding explanation is presented in the <220>
to <223> fields of each sequence which presents at least one n or Xaa.

```
Seq#:6; Xaa Pos. 6
Seq#:13; Xaa Pos. 2
Seq#:15; Xaa Pos. 3
Seq#:16; Xaa Pos. 1
Seq#:19; Xaa Pos. 4
Seq#:20; Xaa Pos. 5
Seq#:26; Xaa Pos. 5
Seq#:27; Xaa Pos. 6
Seq#:28; Xaa Pos. 6
Seq#:29; Xaa Pos. 6
Seq#:40; Xaa Pos. 6
Seq#:41; Xaa Pos. 6
Seq#:42; Xaa Pos. 5,6
Seq#:43; Xaa Pos. 1,6
Seq#:44; Xaa Pos. 1,6
Seq#:45; Xaa Pos. 5
Seq#:46; Xaa Pos. 5,5,6
Seq#:47; Xaa Pos. 1,6
Seq#:48; Xaa Pos. 1,6
Seq#:39; Xaa Pos. 1,6
Seq#:40; Xaa Pos. 1,6
Seq#:41; Xaa Pos. 1,6
Seq#:42; Xaa Pos. 5,6
Seq#:43; Xaa Pos. 5,6
Seq#:44; Xaa Pos. 5,6
Seq#:45; Xaa Pos. 5,6
Seq#:46; Xaa Pos. 4,5
Seq#:47; Xaa Pos. 5,6
Seq#:48; Xaa Pos. 5,6
Seq#:49; Xaa Pos. 5,6
Seq#:50; Xaa Pos. 6
Seq#:51; Xaa Pos. 5,6
Seq#:52; Xaa Pos. 1,6
Seq#:53; Xaa Pos. 5,6
```

VERIFICATION SUMMARY
PATENT APPLICATION: US/09/368,670C

DATE: 01/23/2003
TIME: 08:29:29

Input Set : A:\Corrected sequence listing#2.txt
Output Set: N:\CRF4\01232003\I368670C.raw

```
L:66 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:3
L:112 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:6
L:115 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:6
L:120 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:6
L:141 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:6 after pos.:0
L:179 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:7
L:233 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:13
L:234 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:13 after pos.:0
L:257 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:15
L:268 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:15 after pos.:0
L:286 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:16
L:287 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:16 after pos.:0
L:355 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:19
L:356 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:19 after pos.:0
L:354 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:20
L:355 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:20 after pos.:0
L:441 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:26
L:443 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:26 after pos.:0
L:461 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:27
L:462 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:27 after pos.:0
L:476 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:28
L:447 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:28 after pos.:0
L:515 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:29
L:516 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:29 after pos.:0
L:524 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:30
L:525 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:30 after pos.:0
L:543 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:31
L:544 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:31 after pos.:0
L:560 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:32
L:560 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:32
L:561 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:32 after pos.:0
L:538 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:33
L:539 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:33
L:590 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:33 after pos.:0
L:603 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:34
L:604 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:34 after pos.:0
L:627 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:35
L:628 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:35 after pos.:0
L:646 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:36
L:648 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:36
L:654 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:36
L:655 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:36 after pos.:0
L:666 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:37
L:677 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:37
L:678 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:37 after pos.:0
L:646 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:38
L:700 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:38
L:701 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:38 after pos.:0
```

VERIFICATION SUMMARY
DATE: 01/23/2003
PATENT APPLICATION: US/09/368,670C
TIME: 08:29:29

Input Set : A:\Corrected sequence listing#2.txt
Output Set: N:\CRF4\01232003\I368670C.raw

```
L:719 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:39
L:723 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:39
L:734 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:39 after pos.:0
L:741 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:40
L:744 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:40
L:747 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:40 after pos.:0
L:763 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:41
L:764 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:41
L:771 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:41 after pos.:0
L:780 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:42
L:782 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:42
L:789 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:42 after pos.:0
L:811 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:43
L:813 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:43
L:816 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:43 after pos.:0
L:834 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:44
L:834 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:44
L:844 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:44 after pos.:0
L:857 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:45
L:860 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:45
L:870 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:45 after pos.:0
L:881 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:46
L:884 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:46
L:887 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:46 after pos.:0
L:903 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:47
L:907 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:47
L:918 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:47 after pos.:0
L:926 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:48
L:930 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:48
L:951 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:48 after pos.:0
L:949 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:49
L:954 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:49 after pos.:0
L:973 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:50 after pos.:0
L:996 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:51 after pos.:0
L:1019 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:52 after pos.:0
L:1042 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:53 after pos.:0
```